

**OWNER'S OPERATOR AND  
MAINTENANCE MANUAL**

**LIGHTWEIGHT  
ALUMINUM  
WHEELCHAIR**



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**WARNING**

**DO NOT OPERATE THIS EQUIPMENT WITHOUT FIRST READING AND UNDERSTANDING THIS MANUAL. IF YOU ARE UNABLE TO UNDERSTAND THE WARNINGS AND INSTRUCTIONS, CONTACT INVACARE TOLL FREE CONSUMER HOTLINE AT 1-888-6AURORA (628-7672) BEFORE ATTEMPTING TO USE THIS EQUIPMENT - OTHERWISE INJURY OR DAMAGE MAY RESULT.**

**SAVE THESE INSTRUCTIONS.**

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**SPECIAL NOTES**

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**WARNING/CAUTION** notices as used in this manual apply to hazards or unsafe practices which could result in personal injury or property damage.

**NOTICE**

**THE INFORMATION CONTAINED IN THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE.**

**WHEELCHAIR USER**

As a manufacturer of wheelchairs, Invacare endeavors to supply wheelchairs to meet needs of the consumer. However, final selection of the type of wheelchair to be used by an individual rests solely with the consumer and his/her health care professional capable of making such a selection.

**WHEELCHAIR TIE-DOWN RESTRAINTS AND SEAT RESTRAINTS**

Invacare recommends that wheelchair users **NOT** be transported in vehicles of any kind while in wheelchairs. As of this date, the Department of Transportation has not approved any tie-down systems for transportation of a user while in a wheelchair, in a moving vehicle of any type.

It is Invacare's position that users of wheelchairs should be transferred into appropriate seating in vehicles for transportation and use be made of the restraints made available by the auto industry. Invacare cannot and does not recommend any wheelchair transportation systems.

**AS REGARDS SEATING RESTRAINTS - IT IS THE OBLIGATION OF THE THERAPISTS AND OTHER HEALTH CARE PROFESSIONALS TO DETERMINE IF A SEATING RESTRAINT IS REQUIRED TO ENSURE THE SAFE OPERATION OF THIS EQUIPMENT BY THE USER. SERIOUS INJURY CAN OCCUR IN THE EVENT OF A FALL FROM A WHEELCHAIR.**

## SAFETY SUMMARY

### OPERATING INFORMATION

#### WARNING

To determine and establish your particular safety limits, practice bending, reaching and transferring activities in several combinations in the presence of a qualified health professional BEFORE attempting active use of the wheelchair.

DO NOT attempt to reach objects if you have to move forward in the seat.

DO NOT attempt to reach objects if you have to pick them up from the floor by reaching down between your knees.

DO NOT lean over the top of the back upholstery to reach objects from behind as this may cause the wheelchair to tip over.

DO NOT shift your weight or sitting position toward the direction you are reaching as the wheelchair may tip over.

DO NOT tilt the wheelchair without assistance.

DO NOT use an escalator to move a wheelchair between floors. Serious bodily injury may occur.

DO NOT attempt to stop a moving wheelchair with the wheel locks. WHEEL LOCKS ARE NOT BRAKES.

Before attempting to transfer in or out of the wheelchair, every precaution should be taken to reduce the gap distance. Turn both casters toward the object you are transferring onto. When transferring to and from the wheelchair, ALWAYS ENGAGE BOTH WHEEL LOCKS.

DO NOT operate on roads, streets or highways.

DO NOT climb, go up or down ramps or traverse slopes greater than 9°.

DO NOT attempt to move up or down an incline with a water, ice or oil film.

DO NOT attempt to ride over curbs or obstacles. Doing so may cause your wheelchair to tip over and cause bodily harm or damage to the wheelchair.

DO NOT use unauthorized parts, accessories, or adapters other than those authorized by Invacare

DO NOT attempt to lift the wheelchair by any removable (detachable) part(s). Lifting by means of any removable (detachable) parts of a wheelchair may result in injury to the user or damage to the wheelchair.

DO NOT stand on the frame of the wheelchair.

Anti-tippers are an option on this wheelchair. Invacare strongly recommends ordering the anti-tippers as an additional safeguard for the wheelchair user.

DO NOT use the footplate as a platform when getting in or out of the wheelchair.

The seat restraint is an option on this wheelchair. Invacare strongly recommends ordering the seat restraint as an additional safeguard for the wheelchair user.

#### WEIGHT TRAINING

Invacare DOES NOT recommend the use of its wheelchairs as a weight training apparatus. Invacare wheelchairs have NOT been designed or tested as a seat for any kind of weight training. If occupant uses said wheelchair as a weight training apparatus, Invacare shall NOT be liable for bodily injury and the warranty will be voided immediately.

#### WEIGHT LIMITATION

The AURORA Lightweight Aluminum wheelchairs by Invacare have a weight limitation of 250 lbs.

**SAFETY/HANDLING OF WHEELCHAIRS**

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“Safety and Handling” of the wheelchair requires the close attention of the wheelchair user as well as the assistant. This manual points out the most common procedures and techniques involved in the safe operation and maintenance of the wheelchair. It is important to practice and master these safe techniques until you are comfortable in maneuvering around the frequently encountered architectural barriers.

Use this information only as a “basic” guide. The techniques that are discussed on the following pages have been used successfully by many.

Individual wheelchair users often develop skills to deal with daily living activities that may differ from those described in this manual. Invacare recognizes and encourages each individual to try what works best for him/her in overcoming architectural obstacles that they may encounter. Techniques in this manual are a starting point for the new wheelchair user and assistant with “safety” as the most important consideration for all.

**STABILITY AND BALANCE**

**WARNING**

The seat restraint is an option on this wheelchair. Invacare strongly recommends ordering the seat restraint as an additional safeguard for the wheelchair user.

To assure stability and proper operation of your wheelchair, you must at all times maintain proper balance and wear your seat restraint, if so equipped. Your wheelchair has been designed to remain upright and stable during normal daily activities as long as you do not move beyond the center of gravity.

DO NOT lean forward out of the wheelchair any further than the length of the armrests. Make sure the casters are pointing in the forward position whenever you lean forward. This can be achieved by advancing the wheelchair and then reversing it in a straight line.

**COPING WITH EVERYDAY OBSTACLES**

Coping with the irritation of everyday obstacles can be alleviated somewhat by learning how to manage your wheelchair. Keep in mind your center of gravity to maintain stability and balance.

**A NOTE TO WHEELCHAIR ASSISTANTS**

When assistance to the wheelchair user is required, remember to use good body mechanics. Keep your back straight and bend your knees whenever tilting the wheelchair or traversing curbs, or other impediments.

Also, be aware of any removable (detachable) parts. These must NEVER be used for hand-held or lifting supports, as they may be inadvertently released, resulting in possible injury to the user and/or assistant(s).

When learning a new assistance technique, have an experienced assistant help you before attempting it alone.

**TILTING**

**WARNING**

**DO NOT tilt the wheelchair without assistance.**

When tilting the wheelchair, an assistant should grasp the back of the wheelchair on a non-removable (non-detachable) part. Inform the wheelchair occupant before tilting the wheelchair and remind him/her to lean back. Be sure the occupant’s feet and hands are clear of all wheels.

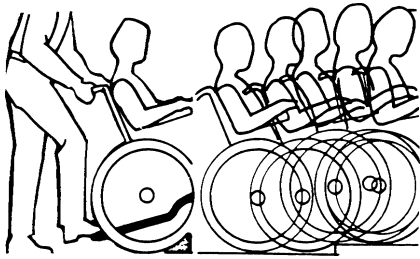
**TILTING - CURBS:**

After mastering the techniques of tilting the wheelchair, use one (1) of the following procedures to tackle curbs, short stairs, etc.

**METHOD 1**

Apply a continuous downward motion until the balance point is achieved and the front casters clear the curb. At this point, the assistant will feel a difference in the weight distribution.

Roll the wheelchair forward and slowly lower the wheelchair in one continuous movement onto the sidewalk. Do not let the wheelchair drop the last few inches to the ground. This could result in injury to the occupant. Push the wheelchair forward until the rear wheels roll up and over the curb.

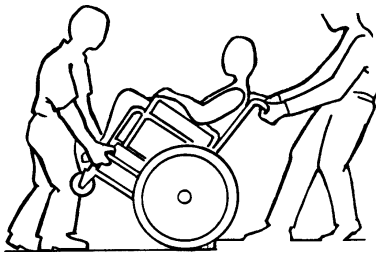


METHOD 1

**METHOD 2**

Unless the first assistant has exceptional upper body strength, it is recommended that **METHOD 2** use two (2) assistants. The second assistant should be positioned at the front of the wheelchair lifting upward on a non-removable (non-detachable) part of the wheelchair frame when lifting the wheelchair and stabilizing the wheelchair when the wheelchair is being lowered to the ground.

The first assistant should stand on the sidewalk and turn the wheelchair so that the rear wheels are against the curb. The wheelchair should be tilted back to the balance point and, in one continuous downward movement, the rear wheels should be pulled up and over the curb. **DO NOT** return the front casters to the ground until the wheelchair has been pulled backward far enough for the front casters to clear the edge of the curb.



METHOD 2

**STAIRWAYS****WARNING**

**DO NOT** attempt to lift the wheelchair by any removable (detachable) part(s). Lifting by means of any removable (detachable) parts of a wheelchair may result in injury to the user or damage to the wheelchair.

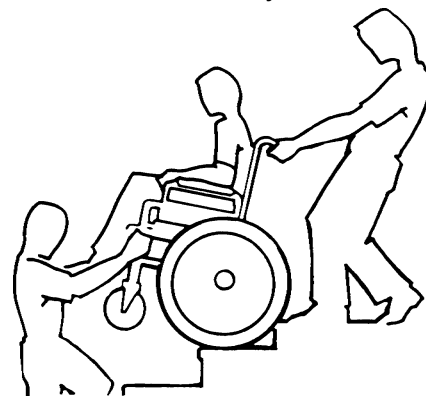
**WARNING, continued**

Extreme caution is advised when it is necessary to move an occupied wheelchair up or down the stairs. Invacare recommends using two (2) assistants and making thorough preparations. Make sure to use **ONLY** secure, non-detachable parts for hand-held supports.

If so equipped, Always wear your seat restraint. Invacare strongly recommends ordering the seat restraint as an additional safeguard for the wheelchair user.

**Follow this procedure for moving the wheelchair between floors when an elevator is NOT available:**

1. After the wheelchair has been tilted back to the balance point, one assistant (in the rear) backs the wheelchair up against the first step, while securely grasping a non-removable (non-detachable) part of the wheelchair for leverage.
2. The second assistant, with a firm hold on a non-detachable part of the framework, lifts the wheelchair up and over the stair and steadies the wheelchair as the first assistant places one (1) foot on the next stair and repeats **STEP 1**.
3. The wheelchair should not be lowered until the last stair has been negotiated and the wheelchair has been rolled away from the stairway.

**ESCALATORS? SORRY!**

**DO NOT** use an escalator to move a wheelchair between floors. Serious bodily injury may occur.

**TRANSFERRING TO AND FROM OTHER SEATS**

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**WARNING**

**BEFORE** attempting to transfer in or out of the wheelchair, every precaution should be taken to reduce the gap distance. Turn both casters toward the object you are transferring onto. Also be certain the wheel locks are engaged to help prevent the wheels from moving.

**CAUTION**

When transferring, position yourself as far back as possible in the seat. This will prevent damaged upholstery and the possibility of the wheelchair tipping forward.

*NOTE: This activity may be performed independently provided you have adequate mobility and upper body strength.*



Position the wheelchair as close as possible along side the seat to which you are transferring, with the front casters pointing toward it. Engage wheel locks. Swing the footrests out of the way and shift body weight into seat with transfer.

During independent transfer, little or no seat platform will be beneath you. Use a transfer board if at all possible.

**PERCENTAGE OF WEIGHT DISTRIBUTION**

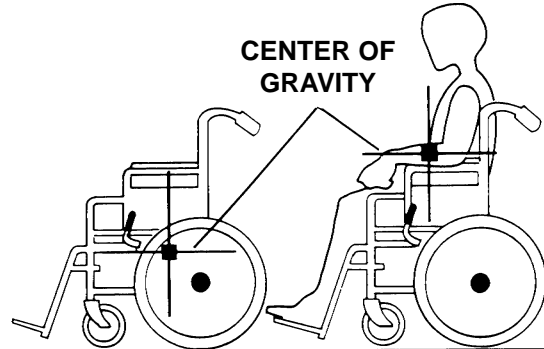
**WARNING**

**DO NOT** attempt to reach objects if you have to move forward in the seat or pick them up from the floor by reaching down between your knees.

Many activities require the wheelchair owner to reach, bend and transfer in and out of the wheelchair.

These movements will cause a change to the normal balance, the center of gravity, and the weight distribution of the wheelchair. To determine and establish your particular safety limits, practice bending, reaching and transferring activities in several combinations in the presence of a qualified health professional **BEFORE** attempting active use of the wheelchair.

Proper positioning is essential for your safety. When reaching, leaning or bending forward, it is important to use the front casters as a tool to maintain stability and balance.



**Example \*46% \*54% 103 lbs. 130 lbs.**

**UNOCCUPIED**

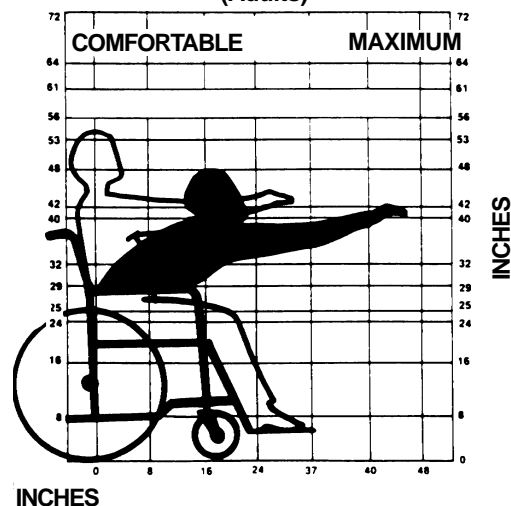
**OCCUPIED**

\* 46% and 54% represent the total weight distribution between the front and rear of the wheelchair.

**FUNCTIONAL REACH FROM A WHEELCHAIR**

The approximate reach-limit values shown in the accompanying graph were derived on the basis of a sample of 91 male and 36 female subject wheelchair users. Note the difference between the maximum and the comfortable reach limits, a subjective but important consideration in design.

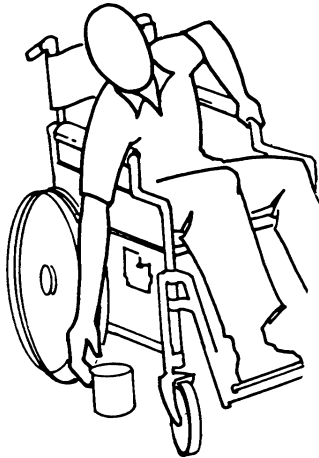
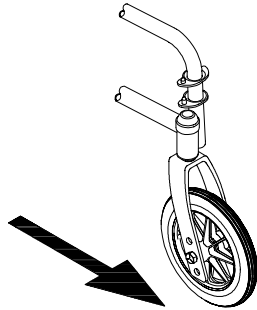
**FORWARD REACH (Adults)**





## REACHING, LEANING and BENDING - FORWARD

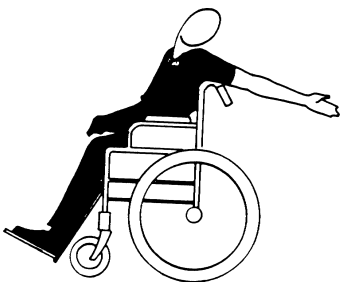
Position the front casters so that they are extended as far forward as possible and engage wheel locks. **DO NOT LEAN FORWARD OF THE ARMRESTS.**



## REACHING, LEANING - BACKWARDS

### WARNING

**DO NOT** lean over the top of the back upholstery. This will change your center of gravity and may cause you to tip over.



Position wheelchair as close as possible to the desired object. Point front casters forward to create the longest possible wheelbase. Reach back only as far as your arm will extend without changing your sitting position.

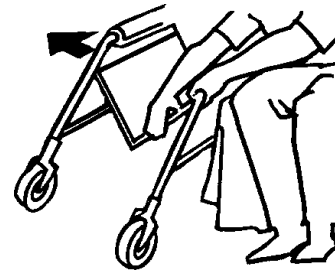
## FOLDING AND UNFOLDING THE WHEELCHAIR

### WARNING

Keep hands and fingers clear of moving parts to avoid injury.

### Unfolding

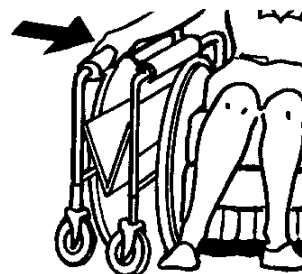
1. Open the wheelchair by grasping the push handle of the wheelchair closest to you.
2. Tilt the wheelchair towards you (raising the opposite wheel and caster off the ground/floor).
3. Push downward on the TOP of the seat rail closest to you where the seat upholstery is attached until the wheelchair is fully open.
4. Engage both wheel locks, open the footrest/legrest for clearance and transfer into the wheelchair. Refer to **TRANSFERRING TO AND FROM OTHER SEATS** in this section of the manual.



UNFOLDING

### Folding

1. Swing footrest/legrest in locked position to the front of the wheelchair.
2. Pivot footplates upward to vertical position.
3. With both hands, grasp the middle of the seat upholstery at the front and back edge and lift up.



FOLDING

**HANDLING**

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**UNPACKING**

1. Check for any obvious damage to the carton or its contents. If damage is evident, notify Invacare
2. Remove all loose packing from the carton.
3. Carefully remove all components from the carton.

*NOTE: Unless the Aurora aluminum wheelchair is to be assembled immediately, retain cartons and packing materials for use in storing the wheelchair until assembly is required.*

**INSPECTION**

1. Examine exterior of the Aurora aluminum wheelchair for nicks, dents, scratches or other damages. Inspect all components. If damage is evident, notify Invacare

**STORAGE**

1. Store the packaged/repackaged Aurora aluminum wheelchair in a dry area.
2. **DO NOT** place other objects on top of the packaged/repackaged wheelchair.

## SAFETY INSPECTION CHECKLIST

*NOTE: Regular cleaning and inspection will reveal loose or worn parts and enhance the smooth operation of your wheelchair. To operate properly and safely, your wheelchair must be cared for just like any other vehicle. Routine maintenance will extend the life and efficiency of your wheelchair.*

Initial adjustments should be made to suit your personal body structure and preference. Thereafter follow these maintenance procedures:

ITEM	INITIALLY	INSPECT/ ADJUST WEEKLY	INSPECT/ ADJUST MONTHLY	INSPECT/ ADJUST PERIODICALLY
<b>GENERAL (TROUBLESHOOTING)</b> 1.Wheelchair rolls straight (no excessive drag or pull to one side).	X			X
<b>WHEEL LOCKS (PROCEDURE 6)</b> 1.Do not interfere with tires when rolling. 2.Pivot points free of wear and looseness. 3.Wheel locks easy to engage.	X X X		X X	X
<b>SEAT AND BACK UPHOLSTERY (PROCEDURE 3)</b> 1.Inspect for rips or sagging. 2.Inspect for loose or broken hardware.	X X		X	X
<b>TIRES (PROCEDURES 4 and 5)</b> 1.Inspect for flat spots and wear. <b>CAUTION: As with any vehicle, the wheels and tires should be checked periodically for cracks and wear, and should be replaced when necessary.</b>	X	X		
<b>REAR WHEELS (PROCEDURE 4)</b> 1.No excessive side movement or binding when lifted and spun.	X			X
<b>HANDRIMS (PROCEDURE 4)</b> 1.Inspect for signs of rough edges or peeling.	X			X
<b>SPOKES</b> 1.Inspect for cracked or broken spokes.	X	X		
<b>FRONT CASTER (PROCEDURE 5)</b> 1.Inspect wheel/fork assembly for proper tension by spinning caster; caster should come to a gradual stop. 2.Loosen/tighten locknut if wheel wobbles noticeably or binds to a stop. 3.Wheel bearings are clean and free of moisture. <b>CAUTION: As with any vehicle, the wheels and tires should be checked periodically for cracks and wear, and should be replaced when necessary.</b>	X X X	X	X X	X
<b>CLEANING</b> 1.Clean upholstery and armrests.	X			X

**TROUBLESHOOTING**

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CHAIR VEERS RIGHT	CHAIR VEERS LEFT	SLUGGISH TURN OR PERFORMANCE	CASTERS FLUTTER	SQUEAKS AND RATTLES	LOOSENESS IN CHAIR	SOLUTIONS
		X	X	X	X	Check for loose stem nuts and bolts.
X	X	X	X			Check caster angle adjustment.
X	X		X			Check that both casters contact the ground at the same time.

**MAINTENANCE**

**MAINTENANCE SAFETY PRECAUTIONS**

**WARNING**

After making adjustments, always make sure that parts are properly tightened BEFORE using the wheelchair.

DO NOT overtighten hardware attaching to the frame. This could cause damage to the frame tubing.

3. Periodically check handrims to ensure they are securely attached to the rear wheels. Refer to **REPLACING REAR WHEEL HANDRIM** in **PROCEDURE 4** of this manual.
4. Periodically adjust wheel locks in correlation to tire wear. Refer to **WHEEL LOCK ADJUSTMENT** in **PROCEDURE 6** of this manual.
5. Periodically check front caster and rear wheel hubs to make sure they are clean.
6. Check Upholstery for sagging, rips or tears.

**SUGGESTED MAINTENANCE PROCEDURES**

1. Before using your Aurora wheelchair, make sure all nuts and bolts are tight. Check all parts for damage or wear and replace. Check all parts for proper adjustment.
2. The wheels and tires should be checked periodically for cracks and wear, and should be replaced when necessary. Contact Invacare consumer hotline toll free, 1-888-6AURORA (628-7672) for an authorized technician near you.

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***This Procedure includes the following:***  
***Swingaway Footrest Assembly Installation***  
***Swingaway Footrest Height Adjustment***  
***Heel Loop Replacement***

**WARNING**

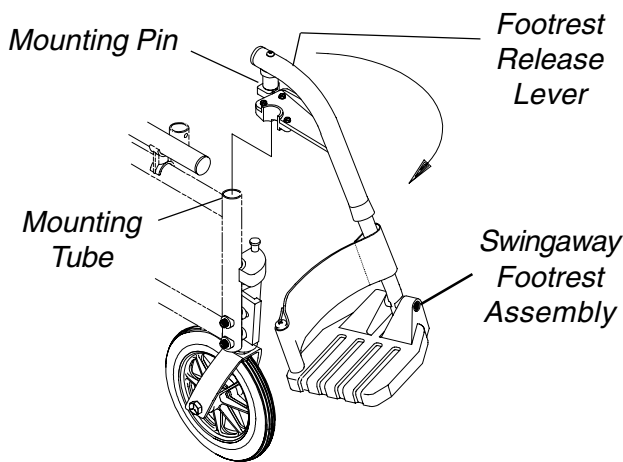
After making adjustments, always make sure that parts are properly tightened **BEFORE** using the wheelchair.

**SWINGAWAY FOOTREST ASSEMBLY INSTALLATION (FIGURE 1)**

1. Turn the footrest to the side (open footplate is perpendicular to wheelchair).
2. Install the mounting pin on the footrest onto the mounting tube on the wheelchair frame.
3. Push the footrest towards the inside of the wheelchair until it locks into place.

*NOTE: The footplate will be on the inside of the wheelchair when locked in place.*

4. Repeat this procedure for other footrest assembly.
5. To release the footrest, push the footrest release lever inward, rotate footrest outward.

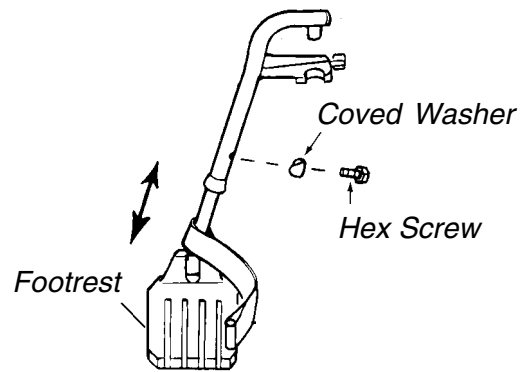


**FIGURE 1 - SWINGAWAY FOOTREST ASSEMBLY INSTALLATION**

**SWINGAWAY FOOTREST HEIGHT ADJUSTMENT (FIGURE 2)**

*NOTE: Release the footrest locking mechanism and lift the footrest off of the mounting tube. Lay the assembly on a flat surface to simplify this procedure.*

1. Remove the hex screw and covered washer that secure the lower footrest assembly to the upper footrest support.
2. Reposition the lower footrest assembly to the desired height. Line up the mounting holes in the lower footrest assembly and the upper support.
3. Securely tighten the hex screw and covered washer.
4. Repeat this procedure for the other footrest, if necessary.

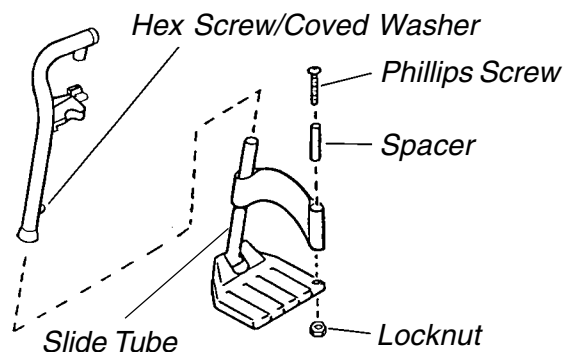


**FIGURE 2 - SWINGAWAY FOOTREST HEIGHT ADJUSTMENT**

**HEEL LOOP REPLACEMENT (FIGURE 3)**

1. Remove the hex screw and covered washer that secure the lower half of the footrest to the upper support.
2. Remove the lower footrest assembly.
3. Remove the phillips screw and locknut that secure the heel loop to the footrest.
4. Slide heel loop over slide tube of footrest assembly.
5. Replace heel loop.
6. Reverse **STEPS 1-5** to reassemble.

*NOTE: When securing the heel loop to the footrest assembly, tighten the phillips screw and locknut until the spacer is secure.*



**FIGURE 3 - HEEL LOOP REPLACEMENT**

**This Procedure Includes the Following:**  
**Removing or Replacing Armrests**  
**Swing-Back Arms**  
**Replacing Armrest Pad/ Clothing Guards**

**WARNING**

After making adjustments, always make sure that parts are properly tightened BEFORE using the wheelchair.

**REMOVING OR REPLACING ARMRESTS (FIGURE 1)**

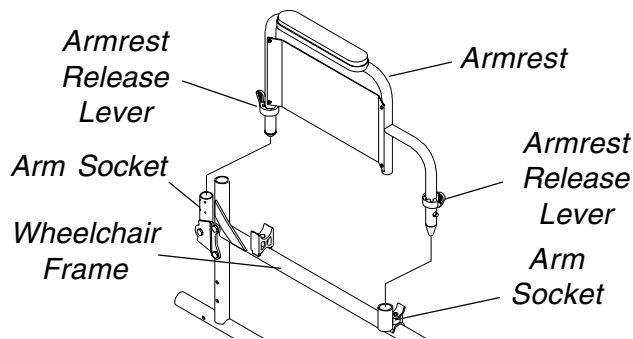
**Removing Armrests**

1. Unlock the arm assembly by rotating the armrest release levers located on the armrest to the unlocked position.
2. Remove armrest from the wheelchair.

**Replacing Armrests**

*NOTE: Armrest release levers MUST be in the unlocked position when placing armrests into the arm sockets.*

1. Install the armrest into the arm sockets on the wheelchair frame.
2. Lock the armrest by rotating the armrest release levers into locked position.



**FIGURE 1 - REMOVING OR REPLACING ARMRESTS**

**SWING-BACK ARMS (FIGURE 2)**

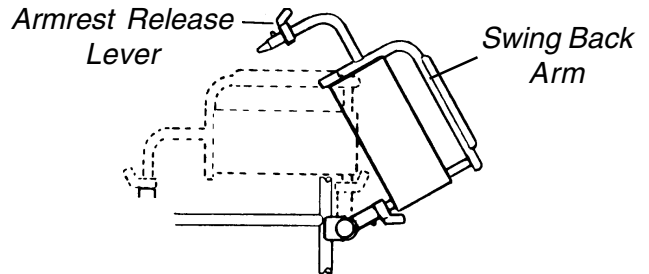
**WARNING**

Make sure the locking mechanism is secured before using the wheelchair.

1. Unlock the swing-back arms by rotating the front armrest release lever towards the outside of the wheelchair.

2. Pull the front of swing-back arm straight up/out of the arm socket and towards the rear of the wheelchair.
3. To lock the swing-back arm, push the swing-back arm towards the front of the wheelchair and then downward into the unlocked socket.

*NOTE: Armrest release lever MUST be in the unlocked position when placing armrest into the arm sockets.*



**FIGURE 2 - SWING-BACK ARMS**

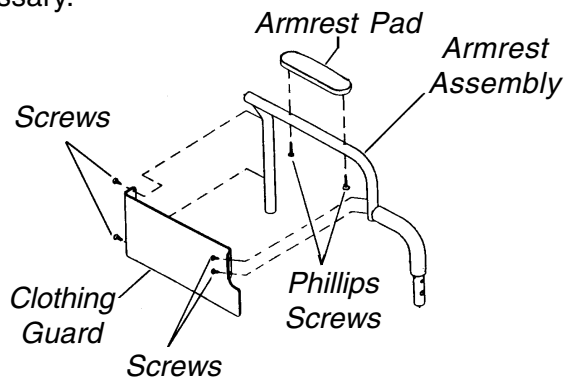
**REPLACING ARMREST PAD/ CLOTHING GUARDS (FIGURE 3)**

**Armrest Pad**

1. Remove the phillips screws that secure the armrest pad to the armrest assembly.
2. Replace armrest pad and securely tighten with the existing phillips screws.

**Clothing Guards**

1. Remove the four (4) screws that secure the existing clothing guard to the armrest assembly.
2. Replace the existing clothing guard with the new clothing guard and securely tighten with the existing hardware.
3. Repeat **STEPS 1-2** for the opposite side if necessary.



**FIGURE 3 - REPLACING ARMREST PAD/ CLOTHING GUARDS**

***This Procedure Includes the Following:******Replacing the Back Upholstery******Replacing the Seat Upholstery*****WARNING**

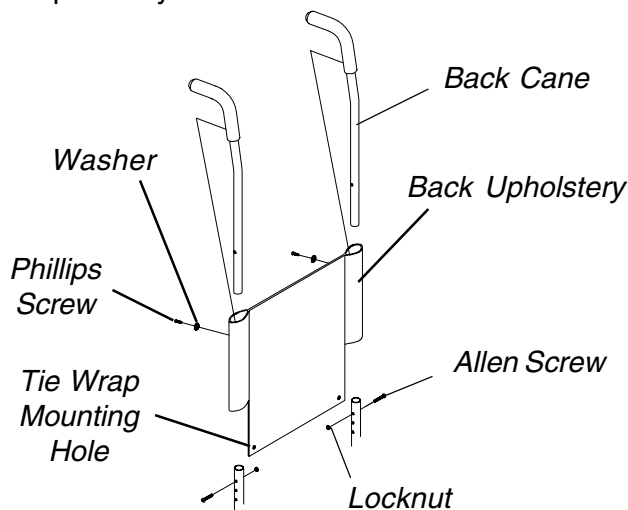
After making adjustments, always make sure that parts are properly tightened BEFORE using the wheelchair.

**REPLACING THE BACK UPHOLSTERY (FIGURE 1)**

1. Cut the tie-wraps that secure the bottom of the existing back upholstery to the wheelchair frame.
2. Remove the two (2) phillips screws and washers that secure the existing back upholstery to the back canes.
3. Remove the allen screw and locknut that secure one (1) back cane to the wheelchair frame.

*NOTE: It is necessary to remove only one (1) back cane to replace the back upholstery.*

4. Pull the loose back cane out of the existing back upholstery.
5. Pull the existing back upholstery up and over the mounted back cane.
6. Install the new back upholstery over the mounted back cane.
7. Slide the loose back cane through the new back upholstery.



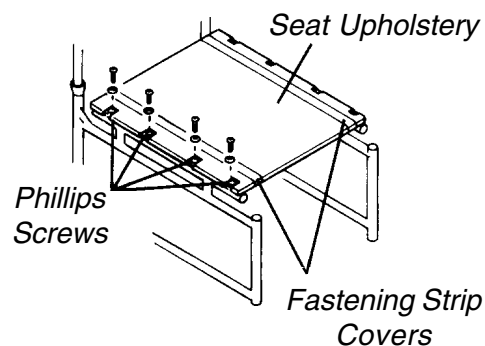
**FIGURE 1 - REPLACING THE BACK UPHOLSTERY**

8. Using the mounted back cane as a guide, reinstall the loose back cane to the wheelchair frame with the existing allen screw and locknut.
9. Securely tighten the new back upholstery to the back canes with the two (2) phillips screws and washers.
10. Secure the bottom of the new back upholstery to the wheelchair frame with tie-wraps.

**REPLACING THE SEAT UPHOLSTERY (FIGURE 2)**

1. If a seat cushion has been installed onto the seat upholstery, remove it from the wheelchair.
2. Remove the eight (8) phillips screws that secure the existing seat upholstery to the crossbraces.
3. Remove the existing seat upholstery from the crossbraces.
4. Install the new seat upholstery by reversing **STEPS 1-3**.

*NOTE: If installing a seat cushion onto the new seat upholstery, remove the two (2) fastening strip covers.*



**FIGURE 2 - REPLACING THE SEAT UPHOLSTERY**

**This Procedure Includes the Following:**  
 Removing/Installing the Rear Wheels  
 Replacing Rear Wheel Handrim  
 Rear Wheel Axle Mounting Adjustments

**WARNING**  
 After making adjustments, always make sure that parts are properly tightened BEFORE using the wheelchair.

**REMOVING/INSTALLING THE REAR WHEELS (FIGURE 1)**

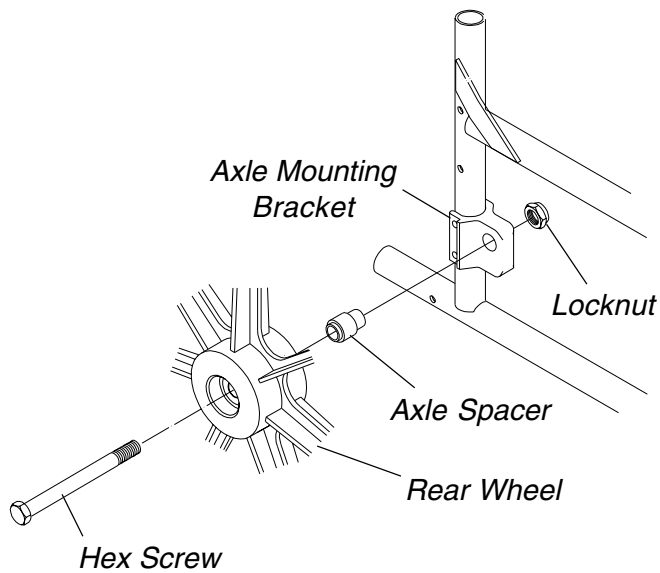
1. Remove the hex screw, axle spacer and locknut that secure the rear wheel to the wheelchair.

*NOTE: Observe the position of the axle spacer before disassembly.*

2. Slide the axle spacer onto the hex screw and loosely install the locknut onto the hex screw. Refer to **FIGURE 1** for correct axle spacer orientation.

*NOTE: This will store all necessary parts for future use.*

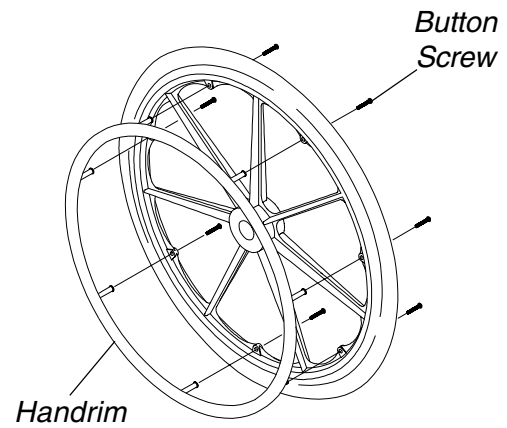
3. Repeat **STEPS 1-2** for the opposite rear wheel.
4. To reinstall the rear wheels onto the wheelchair, reverse **STEPS 1-3**.



**FIGURE 1 - REMOVING/INSTALLING THE REAR WHEELS**

**REPLACING REAR WHEEL HANDRIM (FIGURE 2)**

1. Remove the rear wheel from the wheelchair.
2. Remove the button screws and washers that secure the handrim to the rear wheel.
3. Remove the existing handrim.
4. Install the new handrim by reversing the above procedures.
5. Reinstall rear wheel to the wheelchair.
6. Repeat the procedure for the opposite rear wheel if necessary.



**FIGURE 2 - REPLACING REAR WHEEL HANDRIM**

**REAR WHEEL AXLE MOUNTING ADJUSTMENTS (FIGURE 3)**

**WARNING**  
 The wheel locks MUST be adjusted after ANY repositioning of the rear wheels.

Rear wheel axle mounting brackets are factory installed in the forward position.

If repositioning the axle mounting brackets from the rearward to forward position or vice-versa, the step of the axle mounting bracket must be positioned on the outside of the wheelchair.



**Positioning Axle Mounting Bracket Rearward/Amputee and Forward**

The rearward/amputee and the forward positions are obtained by repositioning the axle mounting brackets on the opposite side of the wheelchair (left axle mounting bracket on the right side of the wheelchair and right axle mounting bracket on left side of wheelchair).

**REARWARD/AMPUTEE AXLE MOUNTING POSITION.**

Moving the rear wheel axle rearward will increase the wheelchair stability and put more weight on the front of the wheelchair.

**FORWARD AXLE MOUNTING POSITION.**

**WARNING**

Moving the rear axle forward alters the balance of the wheelchair. Make certain that the user is capable of safely maintaining balance before using the wheelchair.

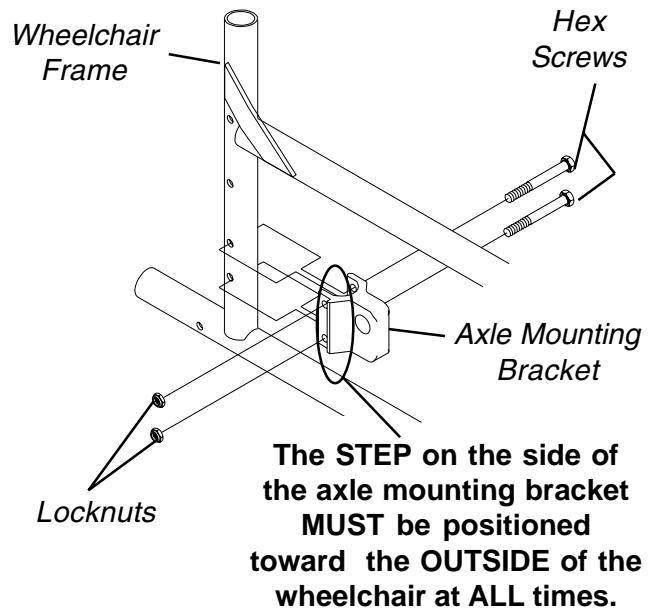
This forward position of the rear wheel axles will contribute to the possibility that the wheelchair will tip over backward more easily.

*NOTE: Moving the rear wheel axle forward will decrease the turning radius, lighten the front end of the wheelchair and increase the weight carried by the rear wheels.*

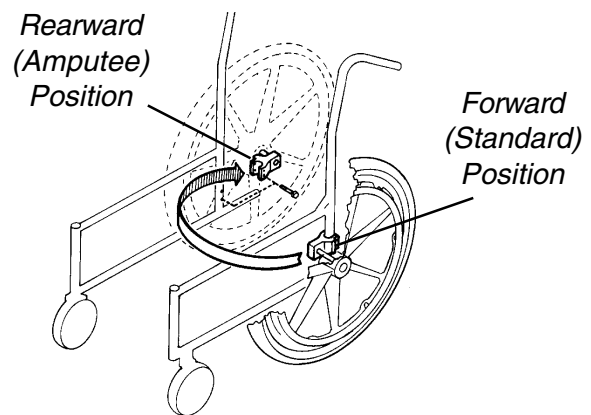
**Procedure For Repositioning The Axle Mounting Brackets**

*NOTE: It is not necessary to remove rear wheels from the wheelchair to make this adjustment.*

1. Remove the hex screws and locknuts that secure the axle mounting brackets to the wheelchair frame.
2. Place the axle mounting brackets at the desired position on the wheelchair frame.
3. Re-secure axle mounting brackets to the wheelchair with the hex screws and locknuts.
4. Adjust the wheel locks. Refer to **WHEEL LOCK ADJUSTMENT** in **PROCEDURE 6** of this manual.



**REPOSITIONING FROM FORWARD TO REARWARD/AMPUTEE POSITION AND VICE/VERSA**



*NOTE: There is no need to remove rear wheels when performing this procedure.*

**FIGURE 3 - REAR WHEEL AXLE MOUNTING ADJUSTMENTS**

*This Procedure Includes the Following:*  
**Replacing Front Casters**  
**Installing/Replacing Forks**  
**Caster Headtube Mounting Adjustments**

**WARNING**

After making adjustments, always make sure that parts are properly tightened BEFORE using the wheelchair.

**REPLACING FRONT CASTERS (FIGURE 1)**

1. Remove the hex screw and locknut that secure the existing front caster to the fork.
2. Install the new front caster onto the fork.
3. Reinstall the spacer and washers and securely tighten the new front caster with the existing hex screw and locknut.

**WARNING**

Make sure both front casters are positioned in the same mounting hole BEFORE using the wheelchair; otherwise injury can occur.

4. Repeat **STEPS 1-3** for the opposite front caster if necessary.

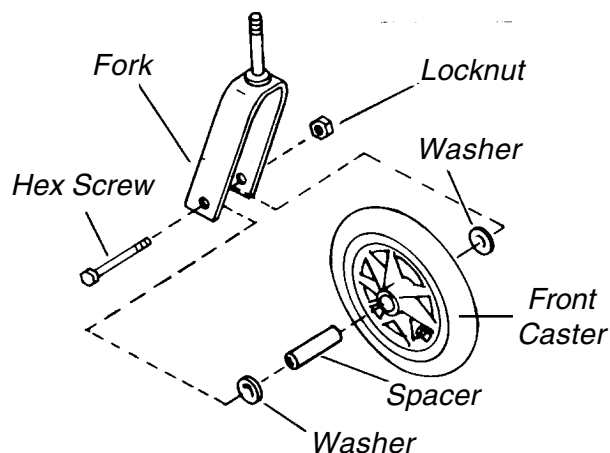


FIGURE 1 - REPLACING FRONT CASTERS

**INSTALLING/REPLACING FORKS (FIGURE 2)**

1. Remove the existing front caster from the fork.
2. Remove the black dust cover.
3. Remove locknut and large plastic washer.
4. Drop the fork out of the caster headtube.
5. Slide in the new fork.
6. Reassemble, except black dust cover by reversing **STEPS 1-5**.
7. Repeat **STEPS 1-6** for the opposite front caster, if necessary.
8. To properly tighten fork stems and guard against flutter, perform the following check:
  - a. Tip back of wheelchair to floor.
  - b. Pivot both forks and casters to top of their arc simultaneously.
  - c. Let casters drop to bottom of arc (wheels should swing once to one-side, then immediately rest in a straight downward position).
  - d. Adjust locknuts according to freedom of caster swing.
9. Test wheelchair for maneuverability.
10. Readjust locknuts if necessary and repeat **STEPS 8-9** until correct.
11. Snap dust caps over the locknut and stem.

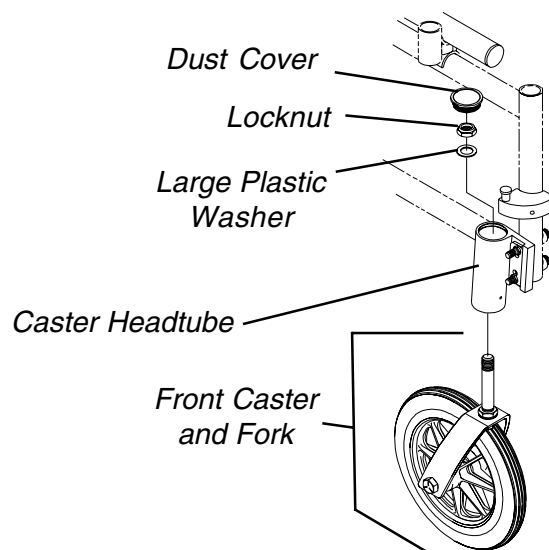


FIGURE 2 - INSTALLING/REPLACING FORKS

**CASTER HEADTUBE MOUNTING ADJUSTMENTS (FIGURE 3)**

**WARNING**

Changing the caster position on the wheelchair frame may interfere with the footrest assembly or rear wheel.

**Leading or Trailing Caster Headtube Positioning**

**LEADING.** Mount the casters on the wheelchair frame with the caster headtube towards the front of the wheelchair to **Lengthen the Wheelbase.**

**TRAILING.** Mount the casters on the wheelchair frame with the caster headtube towards the rear of the wheelchair to **Shorten the Wheelbase.**

*NOTE: The wheelchair is shipped from the factory with the caster headtube in the LEADING position.*

**Mounting Caster Headtubes on the Inside of the Wheelchair Frame**

**WARNING**

Mounting casters on the inside of the wheelchair frame WILL reduce the stability of the wheelchair. Try various caster positions to find the safest caster position for your needs.

To mount the caster headtubes on the inside of the wheelchair frame, reposition the right caster headtube on the left side of the wheelchair and the left caster headtube on the right side of wheelchair.

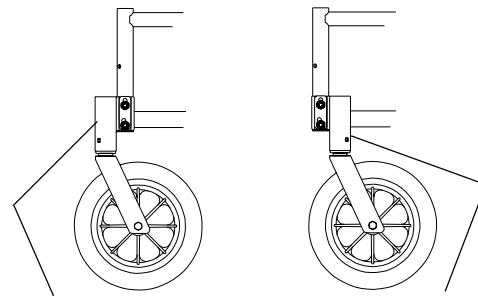
**Procedure For Repositioning the Caster Headtubes**

1. Remove the two (2) hex screws, covered washers, caster headtube plate and locknuts that secure the caster headtube to the wheelchair frame.
2. Move the caster headtubes to the desired position.
3. Secure the caster headtube to the wheelchair frame with the existing two (2) hex screws, covered washers, caster headtube plate and locknuts. Make sure the caster headtube plate is positioned as shown in **FIGURE 3**, otherwise wheelchair performance will be reduced.

*NOTE: Make sure the covered washers are positioned between the button screws and the caster headtube.*

4. Repeat **STEPS 1-3** for the opposite side of the wheelchair.

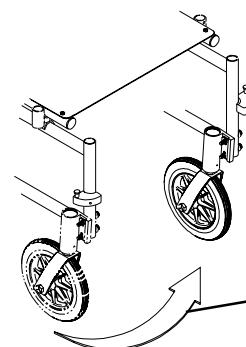
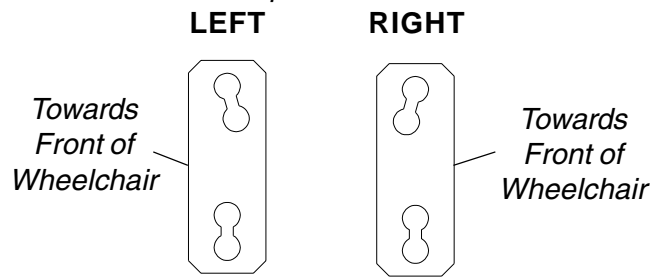
*NOTE: Make sure both casters are mounted in the same position.*



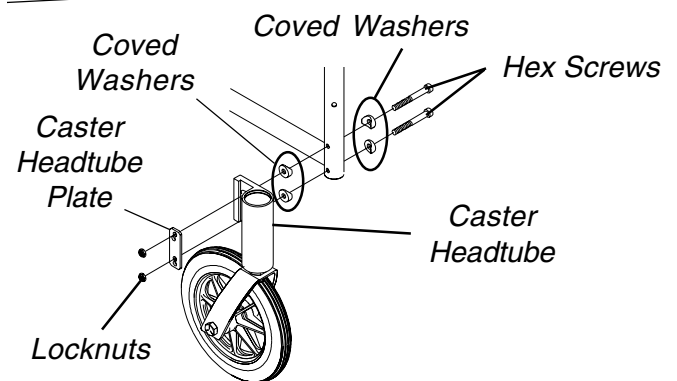
Leading Caster Headtube Position

Trailing Caster Headtube Position

Caster Headtube Plate - ALWAYS Mount in these positions



Positioning Casters on the Inside of the Wheelchair Frame



**FIGURE 3 - CASTER HEADTUBE MOUNTING ADJUSTMENTS**

FRONT CASTERS

ANTI-TIPPERS

**This Procedure Includes the Following:**  
**Installing/Adjusting Anti-Tippers**  
**Wheel Lock Adjustment**

**WARNING**

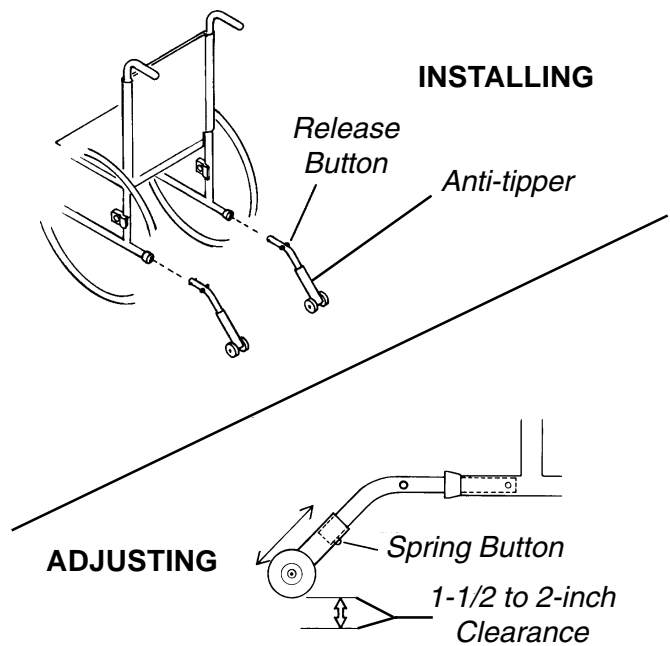
After making adjustments, always make sure that parts are properly tightened **BEFORE** using the wheelchair.

**INSTALLING/ADJUSTING ANTI-TIPPERS (FIGURE 1)**

**WARNING**

Anti-tippers are an option on this wheelchair. Invacare strongly recommends ordering the anti-tippers as an additional safeguard for the wheelchair user.

Anti-tippers must be fully engaged and spring button protruding out of locking hole **BEFORE** using the wheelchair.



**FIGURE 1 - INSTALLING/ADJUSTING ANTI-TIPPERS**

WHEEL LOCKS

**Installing the Anti-Tippers**

1. Press the release buttons IN and insert the anti-tippers with the anti-tipper wheels pointing toward the ground/floor into the rear frame tubing until the buttons lock in place.
2. Measure the distance between the bottom of the anti-tipper wheels and the ground/floor.

*NOTE: a 1-1/2 to 2-inch clearance between the bottom of the anti-tipper wheels and the ground/floor **MUST** be maintained at all times.*

3. If the distance between the bottom of the anti-tipper wheels and the ground/floor is not 1-1/2 to 2-inches, adjust the anti-tippers. Refer to **ADJUSTING THE ANTI-TIPPERS** in this section of the manual.

**Adjusting the Anti-Tippers**

1. Press the spring button on the wheeled portion of the anti-tipper and slide it up or down to achieve the 1-1/2 to 2-inch clearance.
2. Check to make sure that the spring buttons are fully engaged in adjustment holes.

**WHEEL LOCK ADJUSTMENT (FIGURE 2)**

*NOTE: Before adjusting or replacing the wheel lock assemblies, ensure that the tires are inflated to the recommended psi on the side wall of the tire.*

1. Loosen the two (2) allen screws that secure the wheel lock assembly to the wheelchair frame.

*NOTE: Any wheel lock adjustment should embed the wheel lock shoe at least 3/16-inch into the tire when engaged.*

2. Adjust the position of wheel lock until the 3/16-inch measurement is obtained for correct wheel lock adjustment.
3. Securely tighten the two (2) allen screws.
4. Engage the wheel lock and push against the wheelchair and determine if the wheel lock engages the wheel lock shoe enough to hold the wheelchair.
5. Repeat the above procedures until the wheel lock holds the wheelchair.
6. Repeat **STEPS 1-5** for the opposite wheel lock.

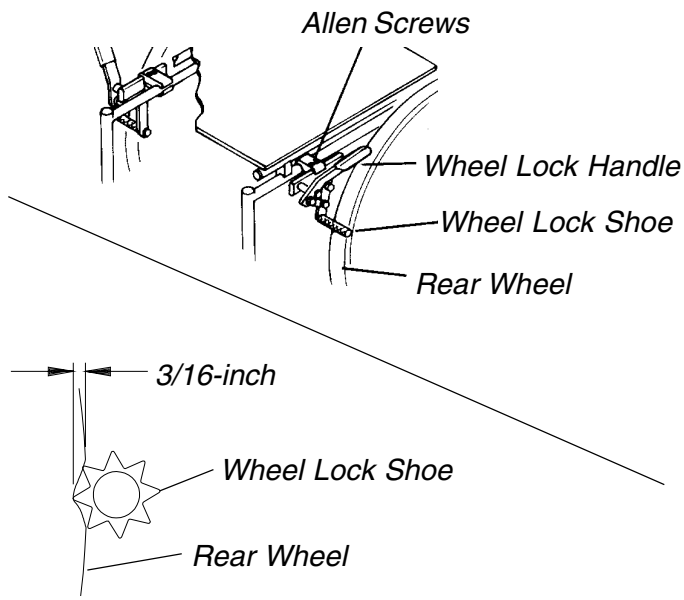


FIGURE 2 - WHEEL LOCK ADJUSTMENT

ANTI-TIPPERS

WHEEL LOCKS



**LIMITED WARRANTY**

**PLEASE NOTE: THE WARRANTY BELOW HAS BEEN DRAFTED TO COMPLY WITH FEDERAL LAW APPLICABLE TO PRODUCTS MANUFACTURED AFTER JULY 4, 1975.**

**This warranty is extended only to the original purchaser/user of our products.**

**This warranty gives you specific legal rights and you may also have other legal rights which vary from state to state.**

**Invacare warrants side frames and crossbraces to be free from defects in materials and workmanship for the lifetime of the original purchaser/user. Upholstered materials (seat, back and armrests [of the arm assembly]) are warranted to be free of defects in material and workmanship for a period of 15 months. All remaining components for one (1) year from date of purchase except tires/wheels. If within such warranty period any such product shall be proven to be defective, such product shall be repaired or replaced, at Frohock-Stewart's option. This warranty does not include any labor or shipping charges incurred in replacement part installation or repair of any such product. Frohock-Stewart's sole obligation and your exclusive remedy under this warranty shall be limited to such repair and/or replacement.**

**For warranty service, please contact or write to: Claims Department - Invacare - 39400 Taylor Parkway - North Ridgeville, Ohio 44039 - 1-888-6AURORA (628-7672). Provide name, address, the product model number and the date of purchase, indicate nature of the defect and, if the product is serialized, indicate the serial number. Do not return products to our factory without our prior consent.**

**Limitations and Exclusions: The foregoing warranty shall not apply to serial numbered products if the serial number has been removed or defaced, products subjected to negligence, accident, improper operation, maintenance or storage, products modified without Frohock-Stewart's express written consent including, but not limited to, modification through the use of unauthorized parts or attachments; products damaged by reason of repairs made to any component without the specific consent of Invacare, or to a product damaged by circumstances beyond Frohock-Stewart's control, and such evaluation will be solely determined by Invacare. The warranty shall not apply to problems arising from normal wear or failure to adhere to the following instructions.**

**THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS WARRANTIES. IMPLIED WARRANTIES, IF ANY, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL NOT EXTEND BEYOND THE DURATION OF THE EXPRESSED WARRANTY PROVIDED HEREIN AND THE REMEDY FOR VIOLATIONS OF ANY IMPLIED WARRANTY SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT PURSUANT TO THE TERMS CONTAINED HEREIN. FROHOCK-STEWART, INC. SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES WHATSOEVER.**

**THIS WARRANTY SHALL BE EXTENDED TO COMPLY WITH STATE/PROVINCIAL LAWS AND REQUIREMENTS.**



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